



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,103	09/16/2003	John D. Reed	CS23599RL	1627
20280 7590 01/03/2008 MOTOROLA INC 600 NORTH US HIGHWAY 45 W4 - 39Q LIBERTYVILLE, IL 60048-5343			EXAMINER DEAN, RAYMOND S	
			ART UNIT 2618	PAPER NUMBER
			NOTIFICATION DATE 01/03/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DOCKETING.LIBERTYVILLE@MOTOROLA.COM  
ADB035@Motorola.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/663,103	<b>Applicant(s)</b> REED ET AL.	
	<b>Examiner</b> Raymond S. Dean	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 18, 2007 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 12, 16 have been considered but are moot in view of the new ground(s) of rejection.

Holma et al. (US 7,058,028) teaches a CDMA system that uses closed loop power control scheme in which power control commands are transmitted in response to a pilot power variance (Figures 4, 6, Cols. 8 lines 56 – 64, 9 lines 37 – 67, 12 lines 33 – 37). Gholmieh and Holma both teach closed loop power control thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the closed loop power control method of Holma in the system of Gholmieh as an alternative closed loop power control means.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 4, 7 – 9, 11 – 14, 16 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gholmieh et al. (US 2004/0147276) in view of Holma et al. (US 7,058,028)

Regarding Claim 1, Gholmieh teaches a method for establishing headroom to provide margin in determining available transmit power value for a mobile station operating in a wireless communication system comprising the steps of: determining a communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, closed-loop reverse power control comprises determining channel variance conditions such as changes in link quality); and establishing a headroom value based on the communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028).

Gholmieh does not teach wherein the communication channel variance condition is at least one of a primary pilot power variance, fading period and fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval.

Holma teaches wherein a communication channel variance condition is primary pilot power variance (Figures 4, 6, Cols. 8 lines 56 – 64, 9 lines 37 – 67, 12 lines 33 – 37).

Gholmieh and Holma both teach closed loop power control thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the closed loop power control method of Holma in the system of Gholmieh as an alternative closed loop power control means.

Regarding Claim 2, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claim 1. Gholmieh further teaches wherein the mobile station performs the steps of determining and establishing (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, when the mobile increases it's power due to the channel condition the headroom of the mobile will be decreased).

Regarding Claim 12, Gholmieh teaches a mobile station comprising: means for determining a communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, when the mobile increases it's power due to the channel condition the headroom of the mobile will be decreased); and means for establishing a headroom value based on the communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, when the mobile increases it's power due to the channel condition the headroom of the mobile will be decreased).

Gholmieh does not teach wherein the communication channel variance condition is at least one of a primary pilot power variance, fading period and fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval.

Holma teaches wherein a communication channel variance condition is primary pilot power variance (Figures 4, 6, Cols. 8 lines 56 – 64, 9 lines 37 – 67, 12 lines 33 – 37).

Gholmieh and Holma both teach closed loop power control thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the closed loop power control method of Holma in the system of Gholmieh as an alternative closed loop power control means.

Regarding Claim 16, Gholmieh teaches a wireless communication system comprising: a base station; at least one mobile station (Figure 1); means for determining a communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, closed-loop reverse power control comprises determining channel variance conditions such as changes in link quality); and means for establishing a headroom value based on the communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028).

Gholmieh does not teach wherein the communication channel variance condition is at least one of a primary pilot power variance, fading period and fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval.

Holma teaches wherein a communication channel variance condition is primary pilot power variance (Figures 4, 6, Cols. 8 lines 56 – 64, 9 lines 37 – 67, 12 lines 33 – 37).

Gholmieh and Holma both teach closed loop power control thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use

the closed loop power control method of Holma in the system of Gholmieh as an alternative closed loop power control means.

Regarding Claims 3, 13, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claims 2, 12. Gholmieh further teaches wherein the mobile station determines a maximum data rate based on the headroom value (Sections 0010, 0036) and sends the maximum data rate to a base station (Sections 0010, 0036).

Regarding Claims 4, 14, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claims 2, 12. Gholmich further teaches wherein the mobile station determines a maximum data rate based on the headroom value (Sections 0010, 0036) and sends a rate adjustment request to a base station (Section 0010).

Regarding Claim 7, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claim 2. Holma further teaches wherein determining a communication channel variance condition includes measuring a variance in a primary pilot power (Figures 4, 6, Cols. 8 lines 56 – 64, 9 lines 37 – 67, 12 lines 33 – 37).

Regarding Claim 8, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claim 1. Gholmieh further teaches wherein a base station performs the steps of determining and establishing (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028).

Regarding Claim 9, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claim 8. Gholmieh further teaches wherein the step of determining a communication channel variance condition includes examination of an inner loop power control bit stream (0021 lines 3 – 7).

Regarding Claim 11, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claim 8. Gholmieh further teaches determining a data rate assignment for a mobile station using the headroom value (Sections 0010, 0036) and sending the data rate assignment to the mobile station (Sections 0010, 0036).

Regarding Claim 17, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claim 16. Gholmieh further teaches means for determining a data rate based on the headroom value (Sections 0010, 0036).

Regarding Claim 18, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claim 17. Gholmieh further teaches means for sending the data rate between the base station and said at least one mobile station (Figure 1, Sections 0010, 0036).

5. Claims 5 – 6, 15, 19 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gholmieh et al. (US 2004/0147276) in view of in view of Holma et al. (US 7,058,028), as applied to Claims 2, 12, 16 above, and further in view of Corazza (US 6,563,810).

Regarding Claims 5, 15, 19, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claims 2, 12, 16. Gholmieh in view of Holma does not teach detecting a battery condition of the mobile station; and modifying the headroom value based on the battery condition.

Corazza teaches detecting a battery condition of the mobile station; and modifying the headroom value based on the battery condition (Col. 6 lines 30 – 51, the



headroom value,  $R_{\text{sub Step2}}$ , is dependent on the maximum transmit power, which is dependent on the amount of battery energy, the headroom value is thus dependent on said battery energy by virtue of its dependence on the maximum transmit power).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Gholmieh in view of Holma with headroom adjustment method of Corazza for the purpose providing an alternative means of determining a maximum data rate.

Regarding Claim 6, Gholmieh in view of Holma and in further view of Corazza teaches all of the claimed limitations recited in Claim 5. Corazza further teaches determining if the battery condition relates to a low battery level; and if the battery condition relates to a low battery level, increasing the headroom value (Col. 6 lines 30 – 51, the headroom value,  $R_{\text{sub Step2}}$ , is dependent on the maximum transmit power, which is dependent on the amount of battery energy, the headroom value is thus dependent on said battery energy by virtue of its dependence on the maximum transmit power).

Regarding Claim 20, Gholmieh in view of Holma and in further view of Corazza teaches all of the claimed limitations recited in Claim 19. Gholmieh further teaches means for determining a data rate based on the headroom value (Sections 0010, 0036); and means for sending the data rate between the base station and said at least one mobile station (Figure 1, Sections 0010, 0036).

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gholmich et al. (US 2004/0147276) in view of in view of Holma et al. (US 7,058,028), as applied to Claim 9 above, and further in view of Rezaiifar et al. (US 2003/0002464).

Regarding Claim 10, Gholmieh in view of Holma teaches all of the claimed limitations recited in Claim 9. Gholmieh in view of Holma does not teach sending the headroom value to the mobile station.

Rezaiifar further teaches sending the headroom value to the mobile station (Sections 0095 – 0096, the max rate possible, which comprises the headroom value, is sent to the mobile station so that said mobile station can transmit at a particular data rate on the reverse link).

Gholmich in view of Holma and Rezaiifar teach a CDMA system in which a headroom value is established thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the headroom establishment method of Rezaiifar as an alternative means for establishing a headroom value.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/663,103  
Art Unit: 2618

Page 10

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Raymond S. Dean  
December 10, 2007

NguyenVo  
12-26-2007

NGUYENT.VO  
PRIMARY EXAMINER